

WAHOO

An .020 Replica that provides nostalgia and performance in an easily constructed package.

by Al Lidberg

WAHOO

TYPE: .020 Replica
WINGSPAN: 29 1/4 inches
WING AREA: 150 square inches
LENGTH: 22 inches

• "wa-hoo /'wä,hü/ interjection, chiefly West—used to express exuberance or enthusiasm"

Wahoo; an unusual name for a model, perhaps, but once you see the model fly, you may also want to express enthusiasm! The original 1940 WAHOO was a product of Louis Garami, a designer noted for his originality and especially for his use of the Atom .09 engine. As an .09 ignition model, the WAHOO spanned 33" and carried the required coil, condenser and batteries. As a result, its total weight and wing loading were quite different from what we might see today for the same sized engine. Based on the fine performance of my .020 Rocketeer 'A,' I scaled the WAHOO down about 10% to approximately 150 square inches. The resulting model makes a fine addition to anyone's contest stable, although it is stable and noncritical enough to be a great sport model.

The .020 replicas are good models for

small flying fields, such as a park (with few trees, please) or a large ball field. For those of you interested in the contest potential of this design, it has no trouble with ROGs or full power flights. During flight testing I ran some Aldrich 1/2A 65% Magnum fuel in the TD .020. No bad tendencies were observed as the WAHOO just climbed higher and faster.

FUSELAGE. The fuselage for the WAHOO is based on a crutch formed of 1/8" sq. This type of construction is typical of early power models and may take a bit of getting used to for modelers accustomed to sheet-balsa-sided boxes. Because of the stresses current models encounter from dethermalized landings, I chose to use 1/8" sq spruce for the main crutch members, with 1/32" x 1/8" balsa crossmembers. Lay out the crutch on the top view of the fuselage. While it is drying, cut out the upper half formers 1 through 4. For number 1, trace the firewall shape but put in all the notches. While you're at it, go ahead and make the lower half formers, too. Glue the upper half formers in place on the crutch while it is still pinned down. Add the 1/8" sq medium balsa top stringer, making sure that former number 1 remains at a right angle to the workboard. After this dries for a few minutes, the 1/32" x 1/4" cap can be added.

When that assembly has dried, the crutch can be removed from the board and the lower half formers added, working "in the air." Again recognizing the DT loads, the lower stringer should be made with a piece of 1/8" sq spruce at the rear, spliced in just forward of former 4L. Now add the 1/32" x 1/4" bottom cap. Lay out the pylon, noting that it will be braced by the 1/16" x 1" extensions that pass through notches in the top cap. When the pylon has been completed, cut the notches and check the fit of the pylon. Add a couple of 1/32" sq stringers alongside the top cap to support the tissue. Leave the pylon off for now to simplify the covering process. Add the 1/32" sq braces about halfway between each pair of formers. The four side stringers can now be added, as well as the sheet fill-in pieces near former number 1. Cut the firewall from 1/16" ply, locate and drill for the engine mounting screws, and press 2-56 blind nuts in place from the rear. The nuts are too thick, so they need to be filed down. Bend the landing gear to shape from 1/16" music wire and lash it to the firewall with soft wire. The cowl keeper wire can now be added. It's just a piece of 1/32" wire pushed through the firewall (below the fuel tank area), bent over and epoxied in place. Leave it a half-inch too long for now. Trim away those portions of formers number 1, 1L or the crutch that prevent the firewall assembly from full contact, and epoxy the firewall in place.

Temporarily mount the engine so that the cowling may be roughed out. The cowl consists of four side pieces of 1/4" balsa with a filler piece of 1/2" at the bottom. Epoxy the plywood latch piece in place, at about the angle shown, before sanding the cowl. Cut some clearance notches for the landing gear wire. This will serve to locate the bottom of the cowl. Refer to the

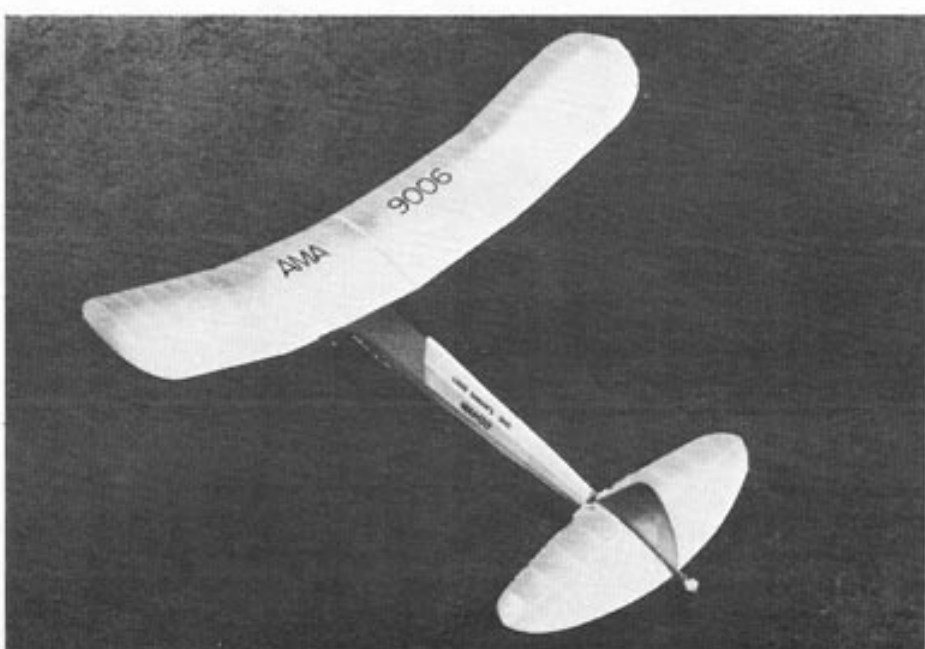
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Chris Lidberg holds Dad's replica Wahoo. Finish is pale yellow tissue, orange trim.



Original did not have a cowl, but one is easily fashioned and held with wire clip.



Wahoo in all its resplendent orange and yellow ready for what it does best, fly. Replica free flight, .020 aircraft have become very popular in SAM contests.